<u>C L A I M S</u>

1. A method of optimization of adjustable parameters of at least one machine, comprising the steps of providing a data processing system; and optimizing adjustable parameters by processing of at least one process algorithm provided in the data processing system.

2. A method as defined in claim 1; and further comprising determining the optimization of the adjustable parameter by target data selected from the group consisting of editable target data, storable target data, and both.

3. A method as defined in claim 1; and further comprising forming the data processing system as a diagnosis system.

4. A method as defined in claim 1; and further comprising processing by the data processing system machine-internal data and machine-external data with consideration of target data, and generating further-processible output data.

5. A method as defined in claim 4; and further comprising editing and storing the machine-internal data, the machine-external data and the output data by the data processing system.

6. A method as defined in claim 1; and further comprising operating the data processing system in a time controlled manner.

7. A method as defined in claim 4; and further comprising using as the machine-internal data the adjustable parameter to be optimized, a further parameter and an internal expert knowledge.

8. A method as defined in claim 7; and further comprising using as the adjustable parameter to be optimized a traveling speed, a rotary speed of at least one threshing drum and/or the rotary speed of a blower of at least one cleaning device.

9. A method as defined in claim 7; and further comprising using as the further parameter a crop-specific and/or machine-specific parameter; and performing the determination of the further parameter by sensors which are in operative communication with the machine or by inputting.

10. A method as defined in claim 9; and further comprising using as the further parameter a parameter selected from the group consisting of a grain loss, a grain throughput, a crop moisture, a crop total throughput and a broken corn portion.

11. A method as defined in claim 9; and further comprising using as the further parameter adjustment regions for parameters of working units of the machine.

12. A method as defined in claim 5; and further comprising generating the machine-external data by external systems and using as the machine-external data plant-specific data, geographic data, weather data and/or external expert knowledge.

13. A method as defined in claim 12; and further comprising using as the external expert knowledge and as internal expert knowledge crop and/or data and experience knowledge.

14. A method as defined in claim 1; and further comprising processing with the at least one process algorithm of the data processing device, of a diagnosis selected from the group consisting of process diagnosis, case diagnosis, model-oriented diagnosis, and combination thereof.

15. A method as defined in claim 1; and further comprising selecting the process algorithm to be processed from a plurality of process algorithms.

16. A method as defined in claim 1; and further comprising proposing or automatically selecting a process algorithm by the data processing system depending on data selected from the group consisting of machine-internal data, machine-external data, and target data.

17. A method as defined in claim 1; and further comprising defining situation patterns for the process algorithms by at least a part of data selected from the group consisting of machine-internal data, machine-external data, target data and combinations thereof; and selecting a situation pattern which comes close or is identical to an instantaneous situation pattern and a process algorithm linked to the situation pattern, depending on the at least one part of the machine-interior data and machine-exterior data with consideration of the target data which defines at least a part of an instantaneous situation pattern.

18. A method as defined in claim 1; and further comprising generation by the data processing system of changed process algorithms depending on machine-interior data and machine-exterior data and with consideration of changeable target data.

19. A method as defined in claim 1; and further comprising generating changed situation patterns by the data processing system in

dependence on machine-interior data and machine-exterior data and with consideration of changeable target data.

20. A method as defined in claim 1; and further comprising storing process algorithms, situation patterns or both in data sets which include at least a part of machine-internal data, machine-external data and target data.

21. A method as defined in claim 1; and further comprising incorporating in the data processing system situation patterns and associated process algorithms and/or optimized adjustable parameters to be available for further machines.

22. A method as defined in claim 1, wherein the machine is an agricultural harvester; and further comprising determining at least one

process algorithm depending on harvesting conditions of the agricultural harvester.

23. A method as defined in claim 1; and further comprising adapting the processing algorithm by expert questioning.